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Conference Abstract

Sustainable Interoperability among Biological Collections and their Computing Platforms

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Abstract

Integration and interoperability have been persistent drivers of biocollections software innovation for over 40 years—both within the biodiversity community and to the outside with external linkages to broader computing initiatives. Currently, global-scale "real-time" data integration is an aspirational dream, mostly constrained by cost and by being technically much more demanding than can generally be supported with current levels of investment and expertise. Today the collections community shuffles along relying on web portals for data discovery, and multi-step, batch transfers of species occurrence data for aggregation. With sufficient resources and collaboration, much more seamless integration and data fluidity are possible. The digital specimen architecture being planned by DiSSCo (The Distributed System of Scientific Collections) promises to re-invent the ways in which institutions curate, improve, and share their collections' data, by transforming the pipelines and methods with which specimen and related information will frictionlessly course among them. With robust integration of applications running on local systems (desktops, laptops, phones), that architecture will ultimately greatly advance the ease of rapidly assembling and updating custom distributed databases for research, education, and outreach.

This presentation will touch on the future of collections community data integration and interoperability from the perspective of sustainability with allusions to the experience we have had with Specify Collections Consortium. Long-term revenue support models, actual financial stakeholders, widespread implementation of robust services behind Application Programming Interfaces (APIs), co-dependent collaborations on open source software

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infrastructure, unprecedented levels of technical coordination, and last but not least, quickly-evolving data standards will all be key resources needed to trek out of our current data landscape to reach the next plateau of biocollections computing.

Keywords

integration, interoperability, sustainability, databases, DiSSCo, Specify

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